CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2002-0170

FOR
CHARLES M. SOMERS, BONITA M. BAHRE
GREGORY GRAVES, AND THE DAVID J. TOWNSEND
AND SHARON J. USHER REVOCABLE TRUST
CLAY STATION 1200
SACRAMENTO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring septic systems and groundwater. This MRP is issued pursuant to Water Code Section 13267.

The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Regional Board staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

SEPTIC TANK MONITORING

The Discharger shall monitor each septic system and report the following information in the second Semi-Annual Report.

Parameter	Units	Measurement	Inspection Frequency	Reporting Frequency
Sludge depth and scum thickness in each septic tank compartment	Inches	Staff Gauge	Annually	Annually
Distance between bottom of scum layer and bottom of outlet device	Inches	Staff Gauge	Annually	Annually
Distance between top of sludge layer and bottom of outlet device	Inches	Staff Gauge	Annually	Annually

The Discharger shall retain records of each inspection, by street address, noting the date, measured readings, calculations, and calculated projection of whether the limits of the Discharge Specifications will be exceeded before the next reading. The Discharger shall also record when cleaning is required, the condition of the tank, and the date that cleaning or repair occurred and by whom. Copies of the Liquid Waste Hauler manifests shall be retained for review.

LEACHFIELD MONITORING

The Discharger shall conduct an annual visual inspection of all leachfields during the peak rainy season (1 January through 30 April). Results shall be recorded and submitted with the first Semi-Annual Monitoring Report each year. Evidence of surfacing wastewater, erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids. In addition to the visual inspections, monitoring of the leachfields shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Effluent depth [1]	Inches	Measurement	Annual	Annual

[1] Measure the depth of any ponded wastewater in each inspection riser. The Discharger shall provide the depth of each disposal trench and the corresponding depth of backfill remaining between the ponded wastewater and the surface.

SEEPAGE PIT MONITORING

Prior to construction of any seepage pit monitoring systems, the Discharger shall submit plans and specifications to the Regional Board for review and approval. Samples shall be collected and analyzed using approved EPA methods. Results shall be recorded and submitted with the Semi-Annual Monitoring Reports. Evidence of surfacing wastewater or the presence of nuisance conditions shall be noted in the report. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids. In addition to the visual inspections, samples shall be obtained from each of the five seepage pit percolate monitoring systems. Seepage pit percolate monitoring shall include, at a minimum, the following:

Constituent/Parameter	Units	Type of Sample	Sampling Frequency	Reporting Frequency
pH	--	Grab	Semi-annual	Semi-annual
Total Dissolved Solids	mg/L	Grab	Semi-annual	Semi-annual
Nitrate+ Nitrite as Nitrogen	mg/L	Grab	Semi-annual	Semi-annual
Total Nitrogen	mg/L	Grab	Semi-annual	Semi-annual

GROUNDWATER MONITORING

Prior to construction of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP, and shall be sampled and analyzed according to the schedule below.

Prior to sampling, groundwater elevations shall be measured and the wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Water table elevations shall be calculated and used to determine groundwater gradient and direction of flow. Samples shall be collected and analyzed using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling and Reporting Frequency
Groundwater Elevation [1]	0.01 Feet	Calculated	Quarterly
Gradient	Feet/Feet	Calculated	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly
pH	S.U.	Grab	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly
Nitrate+Nitrite as Nitrogen	mg/l	Grab	Quarterly
Ammonia	mg/l	Grab	Quarterly
Total Coliform Organisms[2]	MPN/100 ml	Grab	Quarterly

[1] Groundwater elevation shall be based on depth to water using a surveyed measuring point on the well.
[2] Using a minimum of 15 tubes or three dilutions

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Quarterly Groundwater Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Beginning with the second quarter 2003, the Discharger shall establish a quarterly sampling schedule for groundwater monitoring. Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly reports is due by May 1st) each year. The Quarterly Report shall include the following:

1. Results of the groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of the monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
8. Copies of laboratory analytical report(s) for groundwater monitoring.

B. Semi-Annual Monitoring Reports

Semi-annual Monitoring Reports shall be submitted to the Regional Board on the **1st day of the second month following the end of each six-month period** (i.e. the January-June report is due by 1 August), and may be combined with the quarterly reports. At a minimum, the reports shall include:

1. Results of leachfield and seepage pit monitoring;
2. A comparison of monitoring data to the Discharge Specifications and Groundwater Limitations, and an explanation of any violation of those requirements. Data shall be presented in tabular format;
3. If requested by staff, copies of laboratory analytical report(s); and

4. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program.

The second Semi-Annual Report (for the months July through December) shall be submitted to the Regional Board by **1 February** each year. In addition to the information listed above, the second Semi-Annual Monitoring Report shall include the following:

1. A map and a summary of all septic systems completed during the previous calendar year including the name, address, and phone number of the homeowner; the design capacity and type of septic tank; location of designated primary and backup disposal areas; location of nearby wells to confirm compliance with setback requirements; confirmation of compliance with all other setbacks; and the type and design capacity of effluent disposal system installed.

2. The results of the annual monitoring for all septic systems in place during the preceding calendar year. The septic system monitoring information shall be tabulated by street address.

3. If requested by staff, tabular and graphical summaries of all data collected during the year;

4. Annual summary of the septic tank inspections for the year, including the addresses of septic tanks that were cleaned, the volume of sludge removed from each septic tank, and sludge disposal site(s) used;

5. A statement of when the O&M Manual was last reviewed for adequacy, and a description of any changes made during the year;

6. A summary of maintenance and repair activities performed on the sanitary sewer system;

7. Documentation of homeowner education activities;

8. A discussion of any compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements; and

9. A copy of the annual internal evaluation of the effectiveness of the treatment, disposal and monitoring systems in place; operation and maintenance procedures; homeowner education/involvement programs; and groundwater quality.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Acting Executive Officer

ALO:9/6/02

6 September 2002
(Date)